

Instruction on Use of Software and Database Access

**Jack D. Baldwin
Lawrence F. Philips**

BDM Federal, Inc.

19960924 116

DTIC QUALITY INSPECTED 3

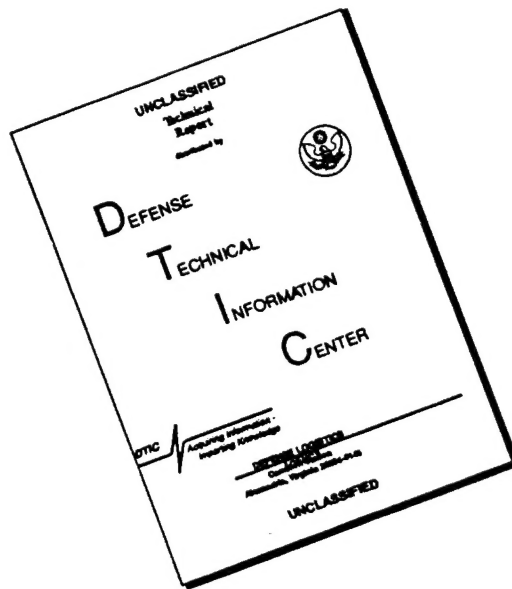
<p>This report is published to meet legal and contractual requirements and may not meet ARI's scientific or professional standards for publication.</p>

August 1996

United States Army Research Institute for the Behavioral and Social Sciences

Approved for public release; distribution is unlimited

DISCLAIMER NOTICE




THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency Under the Jurisdiction
of the Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Director



NOTICES

DISTRIBUTION: This report has been cleared for release to the Defense Technical Information Center (DTIC) to comply with regulatory requirements. It has been given no primary distribution other than to DTIC and will be available only through DTIC or the National Technical Information Service (NTIS).

FINAL DISPOSITION: This report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The views, opinions and findings in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE August 1996		3. REPORT TYPE AND DATES COVERED Interim Report 06/02/94 - 10/30/94	
4. TITLE AND SUBTITLE Instruction on Use of Software and Database Access				5. FUNDING NUMBERS MDA903-92-D-0075-0028 2131 RO2	
6. AUTHOR(S) Jack D. Baldwin Lawrence F. Philips				MIPR from TRADOC	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) BDM FEDERAL INC. DOD CENTER MONTEREY BAY 400 GIGLING ROAD SEASIDE, CA 93955				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES 5001 EISENHOWER AVENUE ALEXANDRIA, VA 22333-5600				10. SPONSORING/MONITORING AGENCY REPORT NUMBER Contractor Report 96-67	
11. SUPPLEMENTARY NOTES The COR is Michael R. McCluskey. This report is published to meet legal and contractual requirements and may not meet ARI's scientific or professional standards for publication.					
12a. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) During the period of performance for this project, significant enhancements and modifications were made to the following Archive Databases and Tools: Automated Finders Guide (AFG), Battle Replay, Mission Critical Event (MCE) and Take Home Package (THP). The purpose of this report is to provide detailed user documentation for the Archive Databases and Tools that were enhanced during Delivery Order 28. The AFG is the "card catalog" of the CTC Archive. It contains the rotation and mission summary data for each Task Force mission and provides listings of data sources that are available in the Archive to support mission analysis. The Battle Replay is a MS-Windows program that shows the movements and firing engagements of the units training at the NTC. The MCE database provides battle summary information consisting of narrative segments from the THP, including the commander's intent, task organization, mission statement and concept of the operation. The MCE also includes a graphic time line representation of major battle events. The THP database is an ASCII text viewer with a specialized menu system providing access to the THP files.					
14. SUBJECT TERMS End User Manual, NTC Battle Replay, After Action Review (AAR), Battle Damage Assessment, Take Home Packages (THP), Mission Critical Event (MCE), JRTC, CMTC, NTC				15. NUMBER OF PAGES	
				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED		

INSTRUCTION ON USE OF SOFTWARE AND DATABASE ACCESS

Jack D. Baldwin
and
Lawrence F. Philips
BDM Federal

Submitted by: Mr. Michael R. McCluskey, Acting Chief
Unit-Collective Training Research Unit
and Jack Hiller, Director
Training Research Laboratory

Mr. Michael R. McCluskey, Contracting Officer's Representative



November 2, 1994

U.S. Army Research Institute

INSTRUCTION ON USE OF SOFTWARE AND DATABASE ACCESS

	Page
<hr/>	
CHAPTER 1 - INTRODUCTION	
I. Background	1
II. Purpose	1
III. Overview	1
CHAPTER 2 - AUTOMATED FINDERS GUIDE USER DOCUMENTATION	
I. General	2
A. Purpose of the End User Manual	2
B. Purpose of the System	2
C. References	2
D. Terms & Abbreviations	2
E. Security	3
II. System Summary	3
A. Overview	3
1. Application Summary	3
2. Performance	3
3. Controls	3
B. System Environment	4
1. Hardware Required	4
2. Software Required	4
C. Contingencies & Alternate Modes of Operation	4
D. Assistance & Problem Reporting	4
III. Access to the System	4
A. First-Time Use of the System	4
1. Equipment Familiarization	4
2. Access Control	5
3. Initialization & Setup	5
B. Initiating a Session	6
C. Stopping & Suspending Work	6
IV. Processing Reference Guide	7

A. Capabilities	7
B. Conventions	8
C. Processing Procedures	8
1. Selection Criteria Window	8
2. Combat Training Center Selections	10
3. Rotation	11
4. Force Type	12
5. Component	13
6. Equipment	14
7. Task Force	15
8. Mission Type	16
9. Display Window	17
10. Summary Pad	18
11. Catalog Pad	19
D. Related Processing	19
E. Data Backup	20
F. Recovery from Errors & Malfunctions	20
G. Messages	20

CHAPTER 3 - NTC BATTLE REPLAY

I. Introduction	23
A. Missions	23
B. Overview	24
II. Metrics -- Control Measures	25
A. Battle	25
B. Next	26
C. TSKO	26
D. EGMT	26
E. PPID	27
F. CLSE	27
G. CTLM	27
H. STOP	27
I. MET - T Template	27

CHAPTER 4 - MISSION CRITICAL EVENT USER DOCUMENTATION

I. Mission Critical Event Sheet Viewer	29
--	----

CHAPTER 5 - TAKE HOME PACKAGE USER DOCUMENTATION

I. THP Viewer	34
---------------------	----

INTRODUCTION

I. BACKGROUND

The Combat Training Centers (CTCs) send training data to the CTC Archive after each rotation. The Archive data sources include the following materials: Take Home Packages (THP), After Action Review (AAR) videocassettes, communications tapes, digital data and other paper data products. The CTC data from the above sources is entered into the following Archive digital databases: Automated Finders Guide (AFG), Battle Replay, Mission Critical Events (MCE) and Take Home Package (THP).

The AFG is the "card catalog" of the CTC Archive. It contains the rotation and mission summary data for each Task Force mission. In addition, the AFG provides listings of data sources that are available in the Archive to support mission analysis. The Battle Replay is a MS-Windows program that shows the movements and firing engagements of the units training at the National Training Center. The MCE database provides battle summary information. The information consists of narrative segments from the THP, including the commander's intent, task organization, mission statement and concept of the operation. The MCE also includes a graphic time line representation of major battle events. The THP database is an ASCII text viewer with a specialized menu system that provides access to the THP files.

II. PURPOSE

During the period of performance for this project, significant enhancements and modifications were made to the following Archive Databases and Tools: Automated Finders Guide (AFG), Battle Replay, Mission Critical Event (MCE) and Take Home Package (THP). The purpose of this report is to provide detailed user documentation for the Archive Databases and Tools that were enhanced during Delivery Order 28.

III. OVERVIEW

There are five chapters in this document. Chapter One provides the background information and purpose for this report. In Chapter Two we have included the User Manual for the Automated Finders Guide (AFG). The User Manual for the Battle Replay is described in Chapter Three. Chapter Four provides the User Manual for the Mission Critical Event (MCE) Database. The User Manual for the Take Home Package (THP) Viewer is defined in Chapter Five.

CHAPTER 2

AUTOMATED FINDERS GUIDE USER DOCUMENTATION

I. GENERAL

A. Purpose of the End User Manual

The objective of the End User Manual for the Automated Finders Guide is to provide the end user with the information necessary to use the program effectively under the Windows 3.1 operating environment.

B. Purpose of the System

The Automated Finders Guide (AFG) is intended as an aid to the Combat Training Center Archive user. It is intended as a tool that will help locate digital information stored on the archive network (or other storage medium). It assists the researcher in selecting a data set, and in judging the completeness of the digital data contained in the chosen set.

C. References

- a) Microsoft Foxpro for Windows User's Guide.

D. Terms and Abbreviations

AAR	After Action Review
AFG	Automated Finders Guide
BDA	Battle Damage Assessment
CMTC	Combat Maneuver Training Center
JRTC	Joint Readiness Training Center
NTC	National Training Center
THP	Take Home Package

E. Security

Access to this program is controlled by the Center for Army Lessons Learned (CALL), at Ft. Levenworth, Kansas.

II. SYSTEM SUMMARY

A. Overview

1. Application Summary

AFG is a program that acts as a locator for archive digital data on a storage medium. This may be a Novell Network, a users local hard disk drive or a removable medium such as optical disk. The digital data stored in the archive may include the following items: Take Home Package (THP) summaries, mission databases, After Action Review (AAR) video tape lists, Communication Tape listings and the Battle Damage Assessment database.

The methods used by AFG to locate data is based on the entries in the 'setup table'. The name and location of the setup table is passed as a parameter to the program upon initialization. The user need not be concerned about this table unless a custom installation on an optical disk or user local hard disk contain archive digital data or archive report objects.

The digital data contained in the archive are provided by the Combat Training Centers, comprised of the National Training Center (NTC), the Joint Readiness Training Center (JRTC) and the Combat Maneuver Training Center (CMTC). These data have been under the control of the Army Research Institute, Presidio of Monterey Field Unit until recently. The Center for Army Lessons Learned has taken full responsibility for these data as of 15 September, 1994, and is now in command of the archive digital data collection, maintenance, storage and access of this data.

2. Performance

When making the selections from the AFG popup menus, it is best to keep from selecting multiple items from a single list.

3. Controls

AFG is controlled by the setup table passed to the program upon initialization. This table (usually called afguser.dbf) contains a list of the objects the AFG program manipulates, and a complete path description where these objects reside. This allows for a custom installation of the archive digital data that the AFG program can accommodate without reprogramming or recompiling of the program.

B. System Environment

1. Hardware Required

The minimum configuration that this program can be use with is a IBM Personal Computer compatible machine with at least an Intel 386 (or compatible) processor. Performance is improved with the newer Intel 486 processor machines.

2. Software Required

Because AFG has been developed using Foxpro for Windows, Microsoft Windows 3.1 is required to execute the program. It is not necessary to have a copy of Foxpro for Windows as the program has been compiled.

C. Contingencies and Alternate Modes of Operation

No alternate mode of operation is offered.

D. Assistance and Problem Reporting

AFG has been equipped with an on-line help facility. At any time during the execution of the program, the user may press the 'F1' function key and context sensitive help will be displayed to assist the user.

If a problem arises which cannot be resolved by the user, they may contact the ARMY Research Institute, Presidio of Monterey, Monterey Ca. Point of contact is Mr. Jack Baldwin [(408) 372-3329].

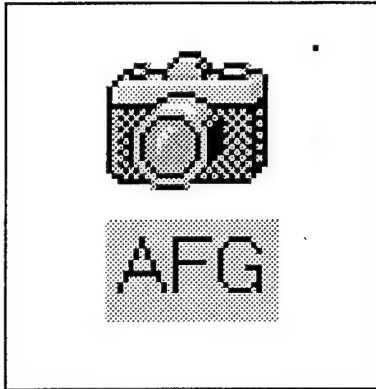
III. ACCESS TO THE SYSTEM

A. First-Time Use of the System

It is assumed that the user will be connected to the archive Novell network, where the executable version of the software reside. If you are on one of the network work stations, AFG should be found in the Archive User's Group. It's icon will be that of a camera, with the caption 'AFG' below it.

1. Equipment Familiarization

AFG is designed to work with any Personal Computer capable of running the Windows



3.1 operating environment. It is a prerequisite of the user to be able to manipulate a pointing device such as a mouse. Also, a familiarity with using Windows 3.1 is assumed by this document.

The default monitor resolution for AFG is XVGA, which is 800 by 600 pixels. The screens were designed in this mode, yet it will also work with a VGA monitor with 640 by 480 pixel resolution. The AFG windows can be repositioned within the monitor for better viewing of the information.

2. Access Control

Because AFG is designed to be used with a personal computer, access to the program is controlled by the network administrator (if using AFG in a network environment). If the user is using a local disk version, access is under the user's own control.

Reports generated by the AFG software are not classified at this time, so no special procedures are required to handle the printed documents.

3. Initialization and Setup

The AFG software requires a setup file upon initialization. The name of this file can be at the user's discretion, but it must be in a particular Foxpro table format. This file contains the object name and the location of the objects that AFG accesses. Different versions of this setup file can be maintained by an individual user, one for the network, another for archive data contained on compact disk or a version of the setup file that points to objects on the user's hard disk.

The format of the setup table is as follows:

<u>Field</u>	<u>Field Name</u>	<u>Type</u>	<u>Width</u>
1	OBJECT	Character	10
2	PATH	Character	50

An example of a setup table listing is as follows (network version of setup table listed):

<u>OBJECT</u>	<u>PATH</u>
master	c:\afg\master.dbf
rotation	f:\archive\afg\rotation.dbf
mission	f:\archive\afg\mission.dbf
aar	f:\archive\afg\aar.dbf

commo	f:\archive\afg\commo.dbf
ctc	f:\archive\afg\ctc.dbf
force	f:\archive\afg\force.dbf
exercise	f:\archive\afg\exercise.dbf
bda_rpt	f:\archive\afg\bda_rpt.frx
i_s_rpt	f:\archive\afg\i_s_rpt.frx
cer_rpt	f:\archive\afg\cer_rpt.frx
bda	f:\archive\bda\bda.dbf
init_str	f:\archive\bda\init_str.dbf
weapon	f:\archive\bda\weapon.dbf
target	f:\archive\bda\target.dbf
mission_db	f:\archive\mission\
thp	f:\archive\thp\
bda_index	f:\archive\bda\bda_index.idx
i_s_index	f:\archive\bda\i_s_index.idx
aridms	f:\archive\mission\aridms.dbf
mid_rpt	f:\archive\afg\mid_rpt.frx
commo_rpt	f:\archive\afg\commo_rpt.frx
aar_rpt	f:\archive\afg\aar_rpt.frx
equipment	f:\archive\afg\equipment.dbf
afghelp	f:\archive\afg\afghelp.dbf

If the user wishes to modify this Foxpro .dbf table, they will need access to Foxpro for Windows (2.5 or later) or any other DBASE compatible filing software.

B. Initiating a Session

You will need to be in Windows 3.1.. Look in the Archive Access group for an icon of a camera (pictured below) with a description of Automated Finders Guide. Using the mouse, double click on this icon to initiate an AFG session.

C. Stopping and Suspending Work

To quit AFG, use the mouse to click on the Exit push button in the AFG window. Use the mouse to click on the Exit Browse menu pad of the AFG browse window to exit the browse function of AFG.

IV. PROCESSING REFERENCE GUIDE

AFG provides the user with information on the availability of archive data on a given computer system. Reports generated by the software can be previewed on the user's terminal screen or printed at the user's discretion.

A. Capabilities

A figure depicting the functions of AFG is presented below. Inputs come from the AFG data set (rotation, mission, aar and commo tables) and the Battle Damage Assessment database set (not shown, but contain the bda, init_str, weapon and target tables). The generated reports can be viewed on screen or sent to a printer.

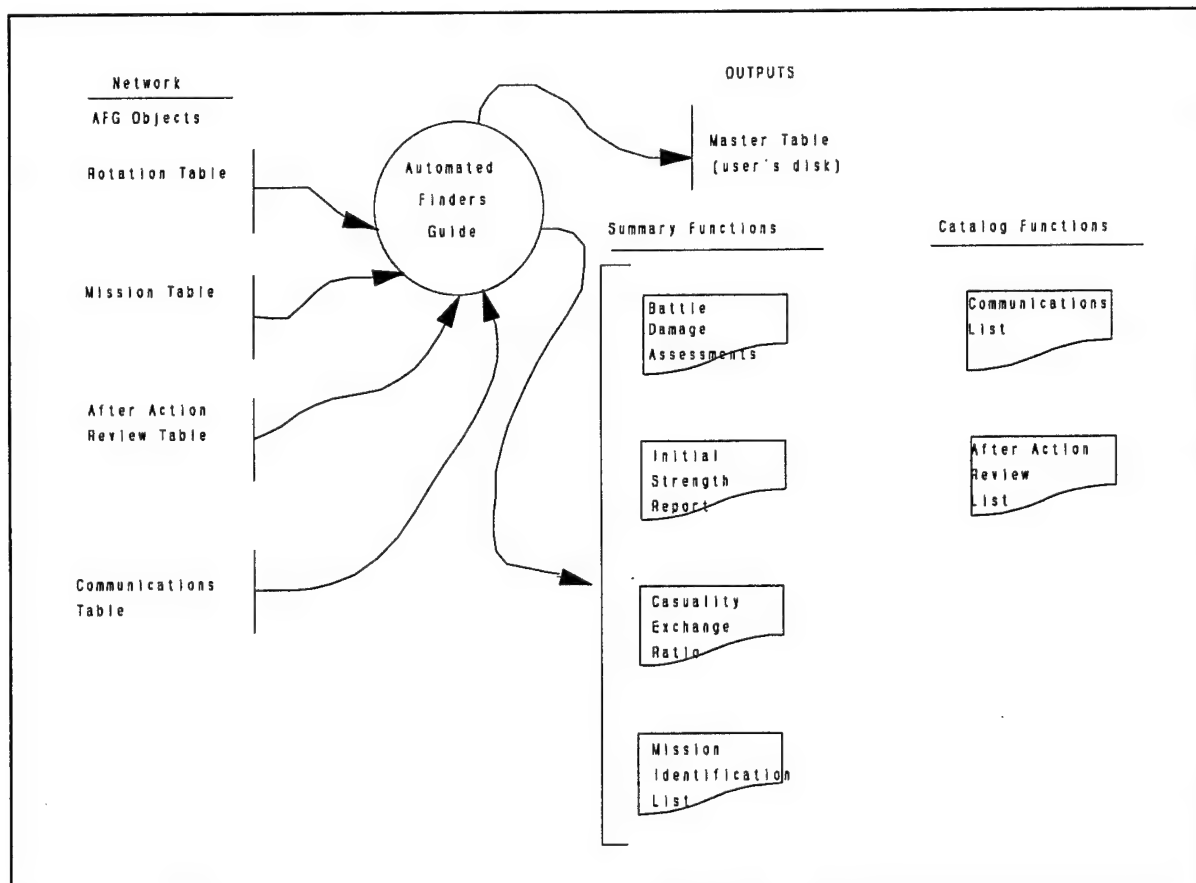


Figure 1 Overview of the Automated Finders Guide Reports

B. Conventions

The function key **F1** can be pressed at anytime to bring up a context sensitive help file. **Escape** can be used to cancel an operation or close a popup.

C. Processing Procedures

The Automated Finders Guide is a software product that prompts the user for archive data selection criteria, and then uses these criteria to construct a query joining two tables, [rotation and mission] into an output master table. The master table resides on the user's disk in c:\afg. This master table is placed in a browse window for the AFG user to review and allows the user to request reports on a mission basis.

1. Selection Criteria Window

The selection criteria available to the AFG user is displayed on the menu of the Selection Criteria window. Each of these menu pads is linked to a popup list from which the user may select one or more items.

Automated Finders Guide						
AFG Selection Criteria Window						
CTC	Rotation	Force Type	Component	Equipment	Task Force	Mission Type
						<div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div>

Bda	Record: 1/33072	Record Unlocked	Ins	Num
-----	-----------------	-----------------	-----	-----

Figure 2 The AFG Selection Criteria Window, showing all of the menu pads available for selecting a data set from the digital data archive.

The Selection Criteria window also contains four push buttons. The first, Clear, will erase all of the selections in the menu pads, allowing the user to start afresh with a new query. Display, the second button, takes the user's selections and performs a joint query between the rotation and mission tables, and displays the results in a browse window. The third button, Help, displays context sensitive help based on the user's focus. The last button, Exit, returns the user to the control of the program manager of windows.

Automated Finders Guide						
AFG Selection Criteria Window						
CTC	Rotation	Force Type	Component	Equipment	Task Force	Mission Type
						<div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div>
<div> <div>CTC Selection</div> <div> <div>CMTC</div> <div>JRTC</div> <div>NTC</div> </div> </div>						
<div> <div>Bda</div> <div>Record: 1/33072</div> <div>Record Unlocked</div> <div>Ins</div> <div>Num</div> </div>						

Figure 3 The CTC Popup. Currently, only the Combat Maneuver Training Center, the Joint Readiness Training Center and the National Training Center have data in the archive.

2. Combat Training Center (CTC) Selections

CTC selections determine which of the CTC's archive data you wish to select. If all CTC's are desired, then make no selection here (no selection is the same as selecting all items).

Automated Finders Guide														
Rotation Selection														
CTC	▲ 9213 9301 9302 9303 9304 9305 9306 9307 9308 9309 9310 9311 9312 9401 9402 9403 9404 9405 9406 9407 9408 ▼	AFG Selection Criteria Window <table border="1"> <thead> <tr> <th>Rotation Type</th> <th>Component</th> <th>Equipment</th> <th>Task Force</th> <th>Mission Type</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="height: 200px;"></td> </tr> </tbody> </table> <div style="text-align: right;"> <input type="button" value="Clear"/> <input type="button" value="Display"/> <input type="button" value="Help"/> <input type="button" value="Exit"/> </div>			Rotation Type	Component	Equipment	Task Force	Mission Type					
Rotation Type	Component	Equipment	Task Force	Mission Type										
Bda	Record: 1/33072	Record Unlocked	Ins	Num										

Figure 4 The Rotation Popup. Note that the list will scroll to display all of the cataloged rotations.

3. Rotation

If the AFG user is interested in a special rotation or group of rotations, the query can be restricted to those rotations by making selections in this popup.

Automated Finders Guide																			
<div> <div> <div>Force Type Selection</div> <div> <div>CTC</div> <div> <div>AIRASLT%</div> <div>AIRCAV%</div> <div>ARMOR%</div> <div>AVN%</div> <div>BRIGADE%</div> <div>CAV%</div> <div>CORPS%</div> <div>DIV%</div> <div>FS%</div> <div>FSB%</div> <div>INF%</div> <div>LIGHT%</div> <div>MECH%</div> <div>MOTOR%</div> <div>O&I%</div> <div>PSYOPS%</div> <div>RANGER%</div> <div>REGT%</div> <div>SOF ALL%</div> <div>SOF AVN%</div> <div>SOF CA%</div> <div>SOF SF%</div> </div> </div> <div> <div>AFG Selection Criteria Window</div> <table border="1"> <thead> <tr> <th>Type</th> <th>Component</th> <th>Equipment</th> <th>Task Force</th> <th>Mission Type</th> </tr> </thead> <tbody> <tr> <td colspan="5"> <div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div> </td> </tr> </tbody> </table> </div> </div> </div> <tr> <td>Bda</td> <td>Record: 1/33072</td> <td>Record Unlocked</td> <td>Ins</td> <td>Num</td> </tr>					Type	Component	Equipment	Task Force	Mission Type	<div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div>					Bda	Record: 1/33072	Record Unlocked	Ins	Num
Type	Component	Equipment	Task Force	Mission Type															
<div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div>																			
Bda	Record: 1/33072	Record Unlocked	Ins	Num															

Figure 5 The Force Type Popup. The percent sign (%) at the end of each menu item assists the software in constructing a query.

4. Force Type

The Force Type selection allows the AFG user to restrict the archive data search to specific forces. If that is not of concern to the user, then do not select from this popup.

Automated Finders Guide																				
<div> <div> <div>AFG Selection Criteria Window</div> <table border="1"> <thead> <tr> <th>CTC</th> <th>Rotation</th> <th>Force Type</th> <th>Component</th> <th>Equipment</th> <th>Task Force</th> <th>Mission Type</th> </tr> </thead> <tbody> <tr> <td colspan="7" style="height: 200px;"> <div> <div> <div>Component Selection</div> <div> 40 ID CANG 1ST ID ACTIVE NATIONAL GUARD </div> </div> <div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div> </div> </td> </tr> </tbody> </table> </div> </div>							CTC	Rotation	Force Type	Component	Equipment	Task Force	Mission Type	<div> <div> <div>Component Selection</div> <div> 40 ID CANG 1ST ID ACTIVE NATIONAL GUARD </div> </div> <div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div> </div>						
CTC	Rotation	Force Type	Component	Equipment	Task Force	Mission Type														
<div> <div> <div>Component Selection</div> <div> 40 ID CANG 1ST ID ACTIVE NATIONAL GUARD </div> </div> <div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div> </div>																				
Bda	Record: 1/33072		Record Unlocked		Ins	Num														

Figure 6 The Component Popup.

5. Component

Use this popup to restrict the query to selected component such as **active** or **national guard**.

Automated Finders Guide			
Task Force Selection		AFG Selection Criteria Window	
CTC	▲ TF 3-67 TF 3-69 TF 1-1 CAV TF 1-108 TF 1-108 AR TF 1-11 ACR TF 1-116 TF 1-11ACR TF 1-12 TF 1-12 CAV TF 1-121 TF 1-12IN TF 1-12INF TF 1-14 IN TF 1-149AR TF 1-14INF TF 1-15 IN TF 1-15 IN TF 1-155 IN TF 1-155IN TF 1-15IN ▼	e Component Equipment Task Force Mission Type	Clear Display Help Exit
Bda	Record: 1/33072	Record Unlocked	Ins Num

Figure 8 The Task Force Selection Popup.

7. Task Force

Again, if the user is interested in selecting archive data based on a Task Force, use this popup to select those TF's of interest. Do not select from this popup if you wish to select archive data from any Task Force.

Automated Finders Guide							
<div>Mission Type Selection</div> <div> <div>CTC</div> <div> ADVANCE COVER ASSAULT ATTACK COUNTERATTACK DELIBERATE ATTACK DEFEND (DEFENSE) DEFEND IN SECTOR DELAY FLANK GUARD FORWARD PASSAGE OF LINE GUARD HASTY ATTACK HASTY DEFEND LINK-UP MILITARY OPER URBAN TERRA MOVEMENT TO CONTACT MOVE OUT OFFENSE OFFENSIVE COVER RAID ROAD MARCH RECONNAISSANCE ▼ </div> </div>	<div>Selection Criteria Window</div> <table border="1"> <thead> <tr> <th>Equipment</th> <th>Task Force</th> <th>Mission Type</th> </tr> </thead> <tbody> <tr> <td colspan="3"> <div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div> </td> </tr> </tbody> </table>	Equipment	Task Force	Mission Type	<div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div>		
Equipment	Task Force	Mission Type					
<div> <div>Clear</div> <div>Display</div> <div>Help</div> <div>Exit</div> </div>							

8. Mission Type

The last selection criteria is mission type. Use this popup to select those mission types of interest with the archive data. Do not select from this popup if any mission type is of interest to the user.

Automated Finders Guide

AFG Selection Criteria Window

Summary Catalog End Browse

25 records selected.

AFG Display Window

Mission id	Ctc	Rotat	Force	Component	Equipment
N941A105	N	9401	ARMOR	ACTIVE	M1A1/M2
N941A113	N	9401	ARMOR	ACTIVE	M1A1/M2
N941AA05	N	9401	ARMOR	ACTIVE	M1A1/M2
N942A102	N	9402	ARMOR	ACTIVE	M1A1/M2
N942A107	N	9402	ARMOR	ACTIVE	M1A1/M2
N943A102	N	9403	ARMOR	ACTIVE	M1A1/M2/M3
N943A106	N	9403	ARMOR	ACTIVE	M1A1/M2/M3
N944A113	N	9404	ARMOR	ACTIVE	M1A1/M2
N944A116	N	9404	ARMOR	ACTIVE	M1A1/M2
N944AA16	N	9404	ARMOR	ACTIVE	M1A1/M2
N945A109	N	9405	ARMOR	ACTIVE	M1A1/M2
N945A115	N	9405	ARMOR	ACTIVE	M1A1/M2
N945A107	N	9405	ARMOR	ACTIVE	M1A1/M2

Master Record: 3/25 Exclusive Ins Num

Figure 10 The AFG Display Window Showing the Summary and Catalog Menu Pads. Note that the number of missions selected is also displayed.

9. Display Window

The master table created from the a joint query between the rotation and mission tables are displayed in the browse window. Use the mouse to highlight a mission id and then you may select a report from the Summary or Catalog options. The user can place scroll bars on the vertical and horizontal axis of the display window in order to view the full contents of the master table.

Automated Finders Guide

Summary Options

Battle Damage Assessments

Casualty Exchange Ratio

Mission Database (MID)

Take Home Package

owse

Initial Strength Output

Print Report

AFG Disp

otat	Force	Component	Equipment
9401	ARMOR	ACTIVE	M1A1/M2
N941A113	N	9401 ARMOR	ACTIVE M1A1/M2
N941AA05	N	9401 ARMOR	ACTIVE M1A1/M2
N942A102	N	9402 ARMOR	ACTIVE M1A1/M2
N942A107	N	9402 ARMOR	ACTIVE M1A1/M2
N943A102	N	9403 ARMOR	ACTIVE M1A1/M2/M3
N943A106	N	9403 ARMOR	ACTIVE M1A1/M2/M3
N944A113	N	9404 ARMOR	ACTIVE M1A1/M2
N944A116	N	9404 ARMOR	ACTIVE M1A1/M2
N944AA16	N	9404 ARMOR	ACTIVE M1A1/M2
N945A109	N	9405 ARMOR	ACTIVE M1A1/M2
N945A115	N	9405 ARMOR	ACTIVE M1A1/M2
N945A107	N	9405 ARMOR	ACTIVE M1A1/M2

Temp_Ls

Record: 1/22

Exclusive

Ins

Num

Figure 11 The Summary Options Popup. Note that grey scaled menu items are not found on in the digital archive data.

10. Summary Pad

Selecting this option will display the four reports and one look up option for digital archive data. The first three reports use data from the Battle Damage Assessment (BDA) data set. The fourth report uses the Mission Identification Table (MID) from the specified mission database. The last option on the popup is Take Home Package, which only shows the user if a Digital version of the THP is found on the network (or other storage medium).

Figure 12 shows the AFG Display Window with the Summary popup activated. The Initial Strength Report option has been chosen, and an output dialogue is displayed to prompt the user for where to direct the output of the report.

Automated Finders Guide

AFG Selection Criteria Window

Catalog Lookup Options

Communications Tape

End Browse

ected.

AAR Options

Print Report

AFG

Mission_id	Ctc	Rotat	F	Component	Equipment
N941A105	N	9401	ARMOR	ACTIVE	M1A1/M2
N941A113	N	9401	ARMOR	ACTIVE	M1A1/M2
N941AA05	N	9401	ARMOR	ACTIVE	M1A1/M2
N942A102	N	9402	ARMOR	ACTIVE	M1A1/M2
N942A107	N	9402	ARMOR	ACTIVE	M1A1/M2
N943A102	N	9403	ARMOR	ACTIVE	M1A1/M2/M3
N943A106	N	9403	ARMOR	ACTIVE	M1A1/M2/M3
N944A113	N	9404	ARMOR	ACTIVE	M1A1/M2
N944A116	N	9404	ARMOR	ACTIVE	M1A1/M2
N944AA16	N	9404	ARMOR	ACTIVE	M1A1/M2
N945A109	N	9405	ARMOR	ACTIVE	M1A1/M2
N945A115	N	9405	ARMOR	ACTIVE	M1A1/M2

Temp_aar

Record: 1/98

Exclusive

Ins Num

Figure 12 Catalog Popup showing the two report options and the output prompt.

11. Catalog Pad

The catalog popup has two selections, the Communications option and the After Action Review option. Reports are generated from the commo.dbf table and the aar.dbf table, respectively. Each report lists the communications tapes or the after action review video tapes for an entire rotation, as these data are not linked to a specific mission. Dates are provided to assist the researcher in locating the appropriate elements from these lists.

Figure 13 shows the AFG Display Window with the Catalog popup activated. The After Action Review Report option has been chosen, and the output dialogue is presented to prompt the user for where to direct the output of the report.

D. Related Processing

Not applicable.

E. Data Backup

Not applicable.

F. Recovery from Errors and Malfunctions

Because no additions, deletions or modifications are performed on the data by the AFG software, recovery procedures are not required. Malfunctions should be reported to your system administrator.

G. Messages

A list of the on-line help available to the user is presented as follows:

<u>TOPIC</u>	<u>DISCUSSION</u>
Force Type	Use the mouse to highlight those force types you wish to include in your selection criteria. If all force types are desired, then do not highlight any of the popup list items, as selecting none of the items is the same as selecting all of the items. Selecting any one will narrow your query to that item(s).
Mission Type	Select one or more items from the Mission type list. Selecting no items is the same as selecting all of the mission types.
Rotation	Highlight using the mouse any of the rotation elements in the popup list. If all rotations are to be included in your search, then do not highlight any of the elements. The default is to accept all elements in the list in your search. Selecting one item narrows the search to only that item.
Unit Id	Select one or more items from the unit id list using your mouse. Selecting none of the items is the same as selecting all of the items. Selecting one or more items narrows the criteria used by the program to retrieve units from the database.
Summary Options	Once you have completed your selection criteria, a list of missions is displayed in a browse window. Highlight a mission of interest and click the mouse on the summary pad. You will be presented with a list of options. When an option is grey scaled, then that option is not available on the network. Most options can be either previewed or printed.

See Also: Battle Damage Assessment, Initial Strength Report, Casualty Exchange Ratio, Mission Database (MID) Report, Take Home Package

Battle Damage

Assessment This option (when available) will query the BDA database and create a report. The user can then select if they wish to preview the report on their computer monitor or send the report to a printer .

Take Home

Package This option doesn't do anything, other than to disclose to the user if a THP file set is available for on-line access by the computer.

Casualty Exchange

Ratio Report This option will generate a report of the Casualty Exchange Ratios derived from the data in the BDA database. You have two options, to preview the report on your video screen or send the report to your printer. The printer used is your default windows printer.

Initial Strength

Report This option will generate a report of the Initial Strength for your selected mission. The BDA database is used for the calculations. You have two options, to preview the report on your video screen or to send the report to a printer. Your default windows printer is used.

Mission Database

(MID)

Report This option provides a brief summary of the MID table from the NTC mission database. Each line of the report represents a phase conducted during the mission.

Note that the name of the mission database may be different from the mission id selected in the Display AFG Window. This is because a mission database may contain more than a single task force. Remember the name of the mission database in the report if you wish to view the exercise using the replay software.

Browse This is the browse portion of AFG. You highlight the desired mission and select one of the two menu items, Summary or Catalog. To exit this module, select the 'End Browse' menu item.

See Also: Summary Options, Catalog Options

Catalog

Options The catalog options contain two options, communication tapes and after action

review videos.

Summary

Options

This menu has five options, one each for BDA, Initial Strength, CER, MID and THP.

CHAPTER 3

NTC BATTLE REPLAY

I. INTRODUCTION

NTC Battle Replay is a Windows program developed by BDM Federal at the Army Research Institute at Presidio of Monterey, Ca. It is an implementation of the program developed by the NTC itself which allows you to view the planned and actual events occurring during a training exercise taking place at the National Training Center near Barstow, Ca. A relief terrain map of the NTC is displayed, and you are allowed to pick a training mission, view the control measures used in the exercise, and then observe the movements of the players, shown using standard army symbology, as they carry out the mission.

The original program was implemented to run on a SUN computer, a powerful but expensive mini-computer. This program runs on an ordinary IBM-style PC, under Windows. Please have a 386 or better CPU chip, and at least 4 Megabytes of RAM. You must install the program in Program Manager with a command line parameter telling the program which drive the data is on. In other words, if the data is located on your c: drive (usually your local hard disk), the command line must look like this: "replay c:". The data files must be installed on this drive using a directory structure that looks like this:

```
c:\archive\mission\n938\n938a_10\*.*
```

That is, all missions should have their own directory named after the mission, under a directory named for the rotation, under archive\mission\ .

A. Missions

This menu choice is the equivalent of the more usual 'Files'. Choosing it will result in the box shown, where there is a choice of Fiscal Year, Rotation, and Mission. First choose the year by DOUBLE clicking on the year you want, and a list of rotations available for that year will appear in the second column. Double click on the rotation, and a list of missions available for that rotation will appear in the third column. When you double click on the mission you want, the box will disappear, and in a few seconds the other menu choices will un-grey, indicating that the information for the mission has been loaded.

ONCE YOU HAVE LOADED THE MISSION, BE SURE TO CHOOSE 'OVERVIEW'

B. Overview

The purpose of the Overview screen is twofold: 1) to give you the big picture in terms of where the battle is taking place and where the action is, and 2) to allow you to quickly and easily choose and move to the part of the battlefield that you will want to see when you run the battle for yourself. Every time you choose a mission, this screen will appear, and red and blue dots will be painted on the terrain showing every place a red or blue player has been as the battle progresses. This is sometimes called the battle 'footprint', as it leaves a trace every where any active player has been in the course of the mission.

When the battle is over a short beep will sound and a yellow rectangle will appear in the upper left hand corner, I call it a 'shadowbox'. It represents the part of the terrain visible to you on the regular screen, which is visible underneath the Overview screen. In order to move to the part of the battlefield you want to see, you use the shadowbox according to the 'drag-and-drop' technique. That is, you move the mouse cursor to somewhere over the shadowbox. Then you click the left mouse button down and hold it down. Now when you move the mouse, the box will move too. Let the mouse button up when the box is located over the part of the battlefield you want to see. You can move it again if you want. Your selection will take effect when you close the Overview window.

You will notice another menu option in the Overview window: 'Rerun'. This allows you to run the battle footprint again. This can be really interesting if you have gone to one of the Task Organization screens (see below), and turned off the players or units you do not wish to see. Then when you run the Overview battle footprint, you will get an overview of only the particular group you are interested in!

You can use this window anytime you would like to move quickly, but the 'battle footprint' (blue and red dots) will be static until you load a new mission or choose Rerun. You can also move the regular terrain by clicking down on the scroll arrows or dragging the scroll buttons to where you want them; the buttons will only move the terrain when you let them go.

II. METRICS -- CONTROL MEASURES

Under the Metrics menu you will find a menu item called Control Measures. The controls are the same as those available for control measures on the NTC SUN version of replay. The column labeled 'Plan', however, might not be available for some missions.

A 'protocol' from the NTC is provided with this document which explains what the combinations of BOS and Echelon actually represent. Please refer to it in order to better understand what you are seeing. You can, as the buttons on the bottom imply, preview your selection of control measures, and clear the screen to start fresh. Whatever you choose, the screen will clear when you close the control measures box, and the control measures you chose will re-display when you choose one of the two choices under 'Battle'. This control measures box is available in the middle of a replay from the button labeled 'CTLM'.

A. Battle

There are two options for actually running the battle:

1.) TRACE is mostly like the footprint version in the Overview window. In this version, though, you can tell where the players actually are (as opposed to where they've been) by the white outline on the top and left of the little colored squares. It will just run --- no, you can't interrupt it in the present version.

2.) Actual REPLAY is much more complicated. Notice that the regular menu is 'greyed out'. This is to signify that it is INOPERATIVE during replay. Instead, a button panel will appear near the upper right hand corner. The military symbols representing the battle participants' positions in the first time slice will appear, as will any direct fire lines or indirect fire boxes. OPFOR mines, anti-tank as well as anti-personnel, will be displayed, along with any control measures you may have chosen. A military time readout will appear in the upper left hand corner. Next to it at the middle of the top of the screen the phase code and description are displayed. You are in control of the progression of the battle; however, for the present, you can only move forward in time.

B. Next

The NEXT button is on top of the button panel. Click on it to advance the battle one time slice.

If there is a faint dotted line around the word NEXT in the button, you can advance the play by hitting Enter. The dotted line signifies that the button has what is called 'focus'. If another window is visible, and you click on that window, it will have the focus, and any keyboard commands will be sent to that window. If you did that, and you wanted the NEXT button to have the focus again, you would have to click on the button.

C. TSKO

This is short for Task Organization. This screen can be accessed and operated both from the regular menu at the top of the screen, where it is shown as Task Org, or from the button panel during the battle. For rotations starting in 1992 - 01, a genuine task organization screen will come up first, showing the unit names organized graphically to represent their hierarchical relationship and cross attachments. Instructions for deactivating units is shown in yellow at the top, if you can read a typeface that small. Units that are deactivated will not be shown on the screen; the TSKO screen allows you to change who is being shown, in the middle of the battle.

(If you click on the unit name instead of the '>' symbol, a list of members of that unit will be displayed. Click on an empty area to get rid of it.)

There is another screen that shows individual BLUFORCE members by ID number and symbol. For rotations before 92, this is the only screen shown. For 92 and later, is is available as the 'Individuals' menu choice from the screen described just above. We have attempted to organize the players by unit in this screen by deducing the units from the ID number, but the actual organization may be different, unlike the other screen which relects information about organization provided by the NTC. An individual player may be deactivated (or re-activated) in the Individuals screen by clicking on their number. The 'Select' menu option provides a box with buttons allowing you to turn off larger groups.

D. EGMT

This is short for Engagements. This screen is also available both from the button panel and the main menu. You have a choice of all indirect fire events, all matched and unmatched direct fire events, or only matched direct firings, color coded according to whether they were blue on red (blue), red on blue (red), or blue on blue (black). If you leave it open as the Replay is run, it will scroll up so that you can see the last three engagements at the top of the window.

E. PPID

This stands for Player Personal ID. When you click on this choice, you will then be able to find out the ID number and equipment/vehicle of an individual, by clicking on their symbol. Frequently, more than one player will be at roughly the same location. In that case, boxes with the ID information will continue to appear, and you will have to continue to click on the OK button when you have finished reading them. In order to GET BACK to regular Replay mode, and bring back the button panel, HIT ENTER.

F. CLSE

This stands for Close Up window. This window shows an area of the terrain magnified by four in both directions. ID numbers are also printed underneath the symbols.

When you click on CLSE, a yellow box will appear in the upper left hand corner of the screen. Look for it - it is not as obvious as the yellow rectangle in the Overview screen. It operates, however, on exactly the same drag-and-drop principle. Position it over the part of the battlefield that you wish to see in magnified detail. The window will appear as soon as you release the mouse button. You can move the window to any part of the screen you like, but you cannot, as yet, resize it so that it covers more ground. You can also, at any time, click on CLSE again and change the area on the terrain that you are magnifying.

The Close Up window also gives a better proportion of individuals in relation to indirect fire boxes, so that it gives you a better idea of who was hit.

G. CTLM

(see METRICS -- CONTROL MEASURES, above)

H. STOP

This button allows you to abort Replay. The button panel will disappear and the regular menu will again become active.

I. MET-T Template

This is a battle effectiveness metric developed by ARI. It takes the form of a mushroom shape superimposed on the screen. The stem of the mushroom represents the Area of Objective. The top of the mushroom is divided into three parts representing a close combat

area, and a medium and maximum fire range for the defenders. At the end of the battle, Blufor dead and alive in the various zones are totalled and displayed.

When you make this menu choice, a mushroom outline will be shown with some labels reading "grab here" and "click to tilt". The first is a 'hot spot' where you can click down to move the mushroom template in a drag-and-drop manner. The "click to tilt" areas do just that - allow you to click on those corners of the mushroom to tilt it to the proper orientation. The labels will dissapear after the first time you move the mushroom, so remember where they are. When you have the template where you want it, you don't have to do anything else - just start the battle, and the mushroom will remain on the screen.

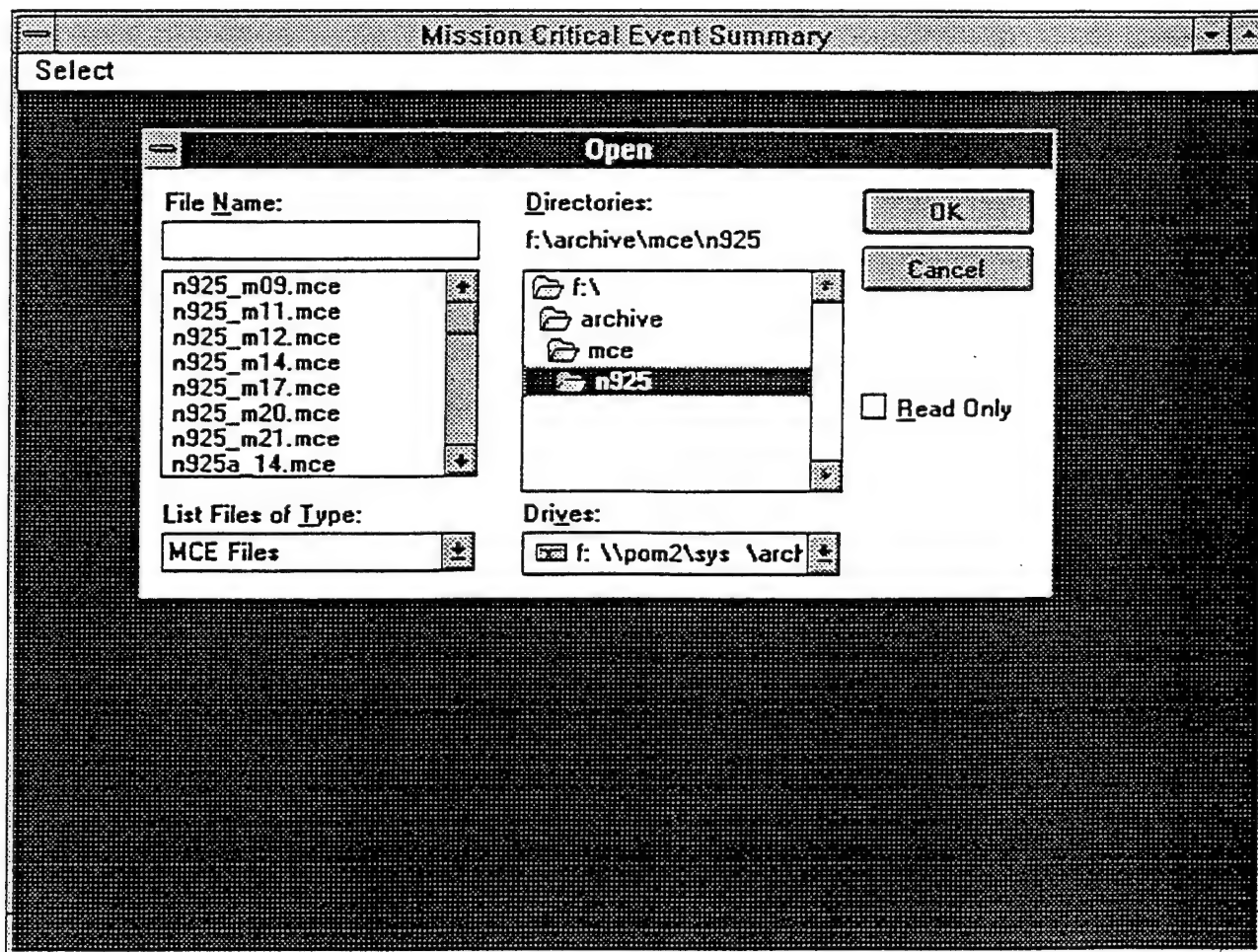
CHAPTER 4

MISSION CRITICAL EVENT USER DOCUMENTATION

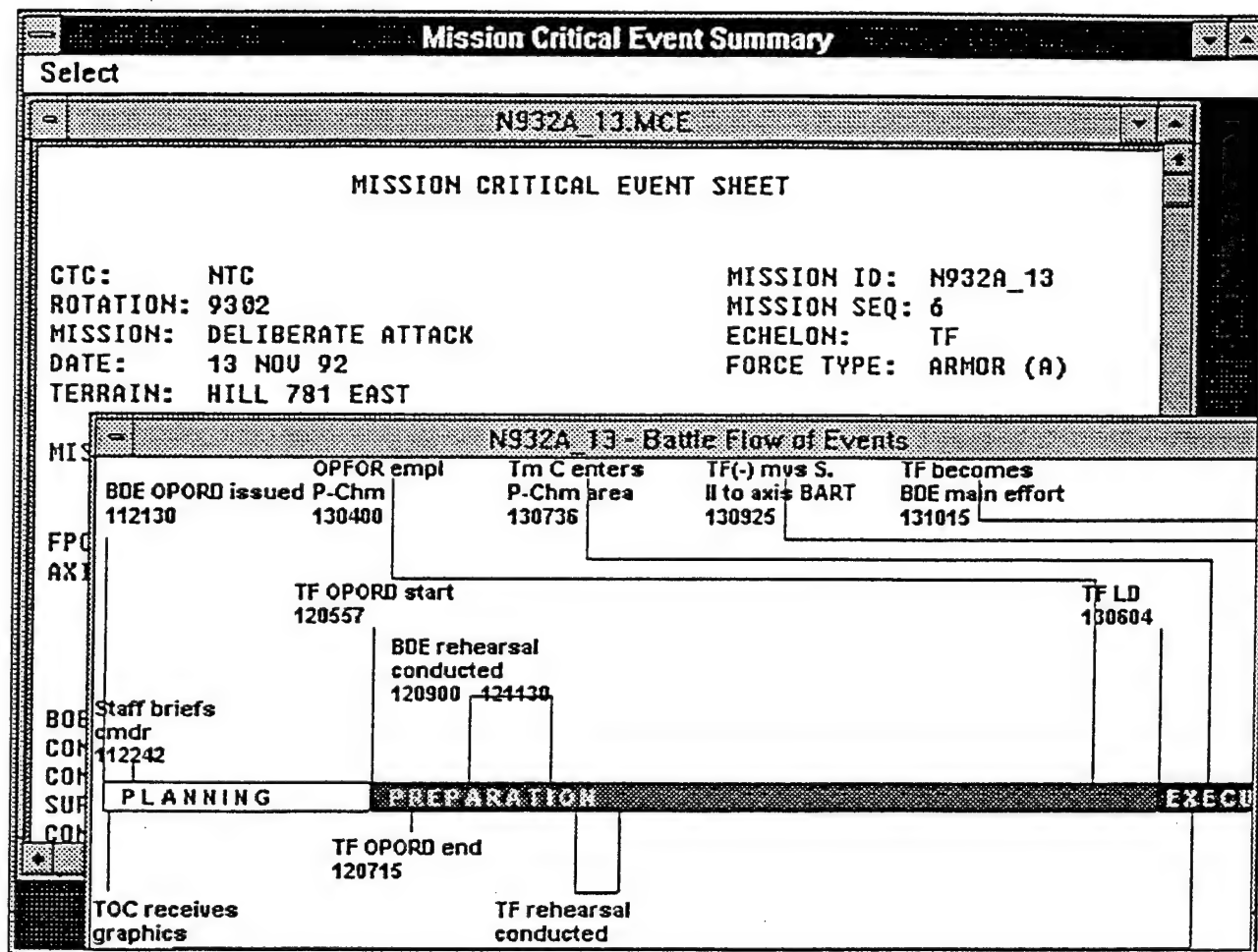
I. MISSION CRITICAL EVENT SHEET VIEWER

The Mission Critical Event Sheet is a synoptic summary of mission information. It includes the Commander's Intent, Task Organization, Concept of Operation, and a mission timeline graphic known as a Battle Flow of Events.

Click on 'Select' to get a Standard Windows File Open Box in order to choose the rotation and mission:

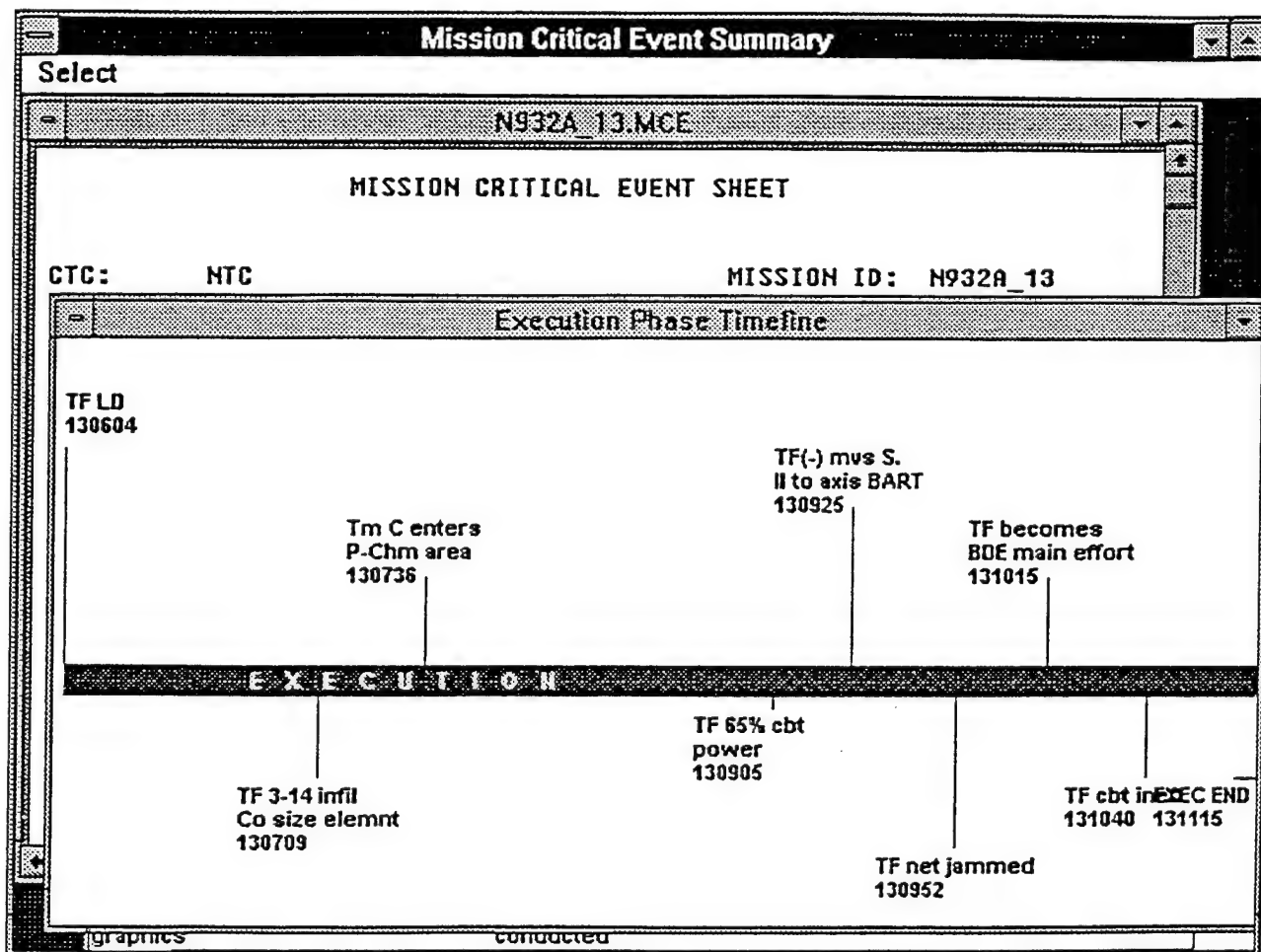


This program is very easy to use as it only displays information. As always in Windows programs, clicking on a visible area of a window brings it to the top, and windows can always be dragged around if they are not completely visible or in the way.

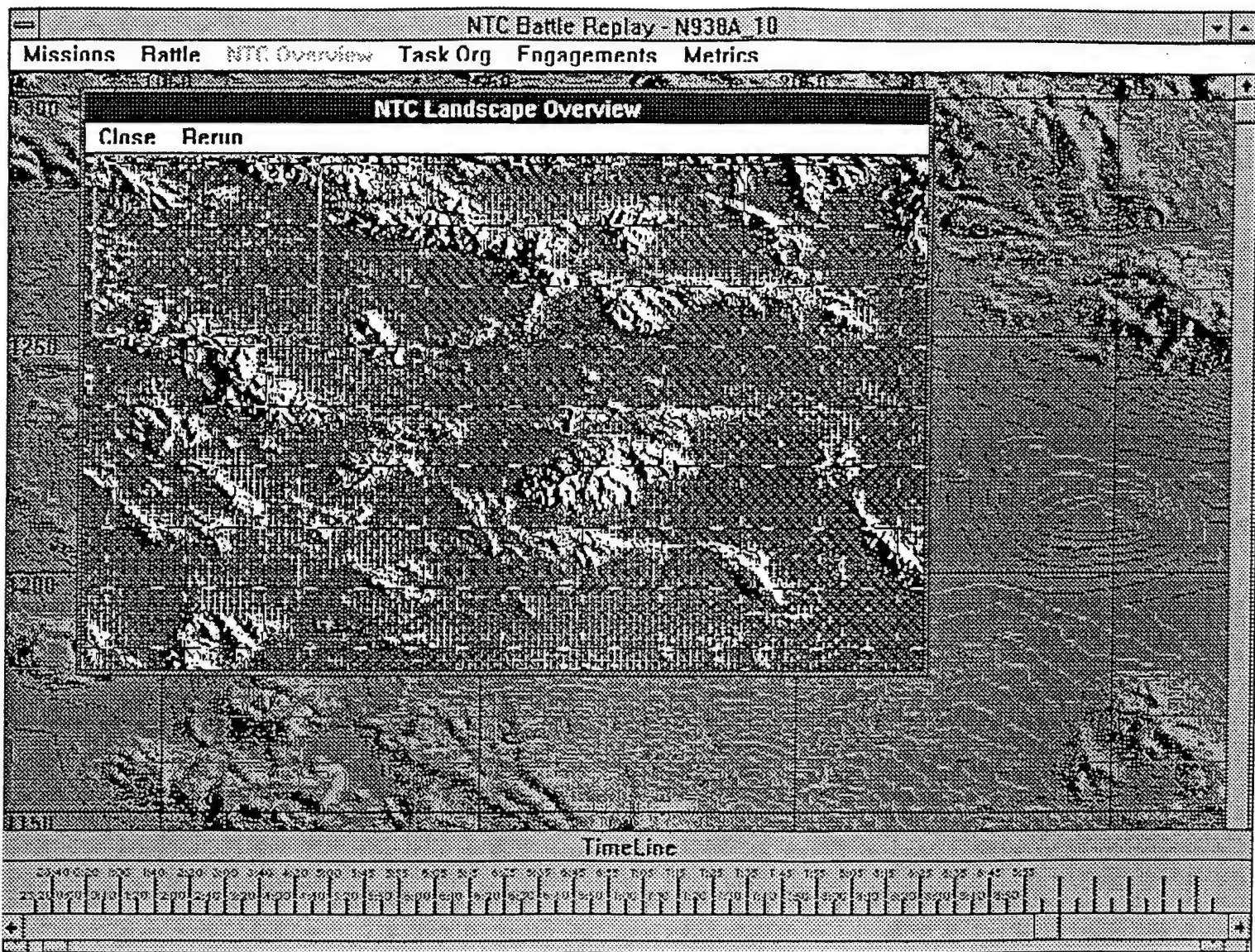


The Timeline is strictly proportional to give the researcher an accurate feel for the relationship of mission events in time. Naturally the majority of the most significant events in a mission will occur in the execution phase, which also takes up the shortest amount of time. Since this leaves the timeline crowded at this part, an execution phase only timeline can be

activated by clicking on the blue 'EXECUTION' part of the timeline bar, at the right hand side.



The TimeLine, shown here with the Overview window, is a Windows-like way of allowing control over Replay. If you bring up the TimeLine (choose it from the menu under 'Metrics') and leave it there while you bring up and run the Overview, the "thumb" on the slide bar at the bottom will creep along, showing you where you are at any given point while the Overview window plays the mission. If you pay attention, you might see some part of the mission you wish to concentrate on, and where the thumb is on the timeline (you can, of course, re-run the Overview). Don't be worried when the timeline disappears after you close the Overview - this is necessary for the proper display of the terrain.



Now you can control the time the Replay itself starts or reset the time anytime, once you are in Replay mode, by dragging the thumb to the point on the timeline where you want to be. You can do this before you start Replay mode, or during Replay.

The TimeLine choice (TMLN on the Replay button panel) is a toggle type switch - in other words, hit it once and it turns on, hit it again and it turns off. If the TimeLine disappears when you want to see it, hit the menu choice or button once or twice and it is sure to show up.

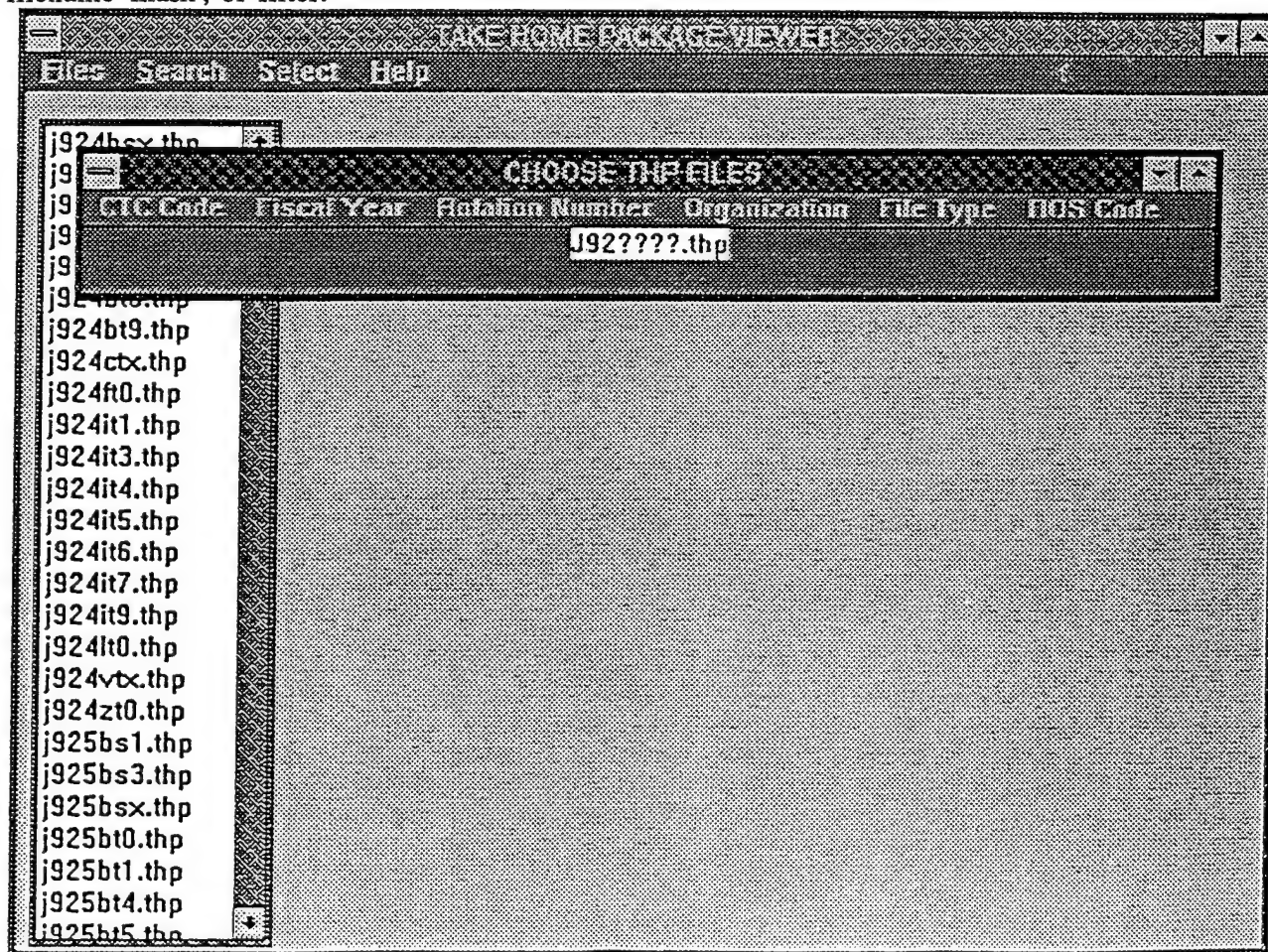
One more thing: it turns out that a number of missions have more time 'slices' than there are spaces on the bar!

TAKE HOME PACKAGE USER DOCUMENTATION

I. THP VIEWER

This program is designed to make it easy to find THP files that are relevant to your research and to search within and among them for words or phrases. It is really just a text viewing program with a few special features:

1. *The 'Choose THP Files' menu.* The THp filenames are coded to represent the CTC, year, rotation, etc. Moreover, the CTCs have somewhat different methods of encoding the subject matter of the THPs, and have even both changed the format of the filenames, and the THPs themselves, after the third rotation in 1993! The Menu system allows you to choose criteria in plain English (or plain Army English, anyway) and encodes the choices in a filename 'mask', or filter.

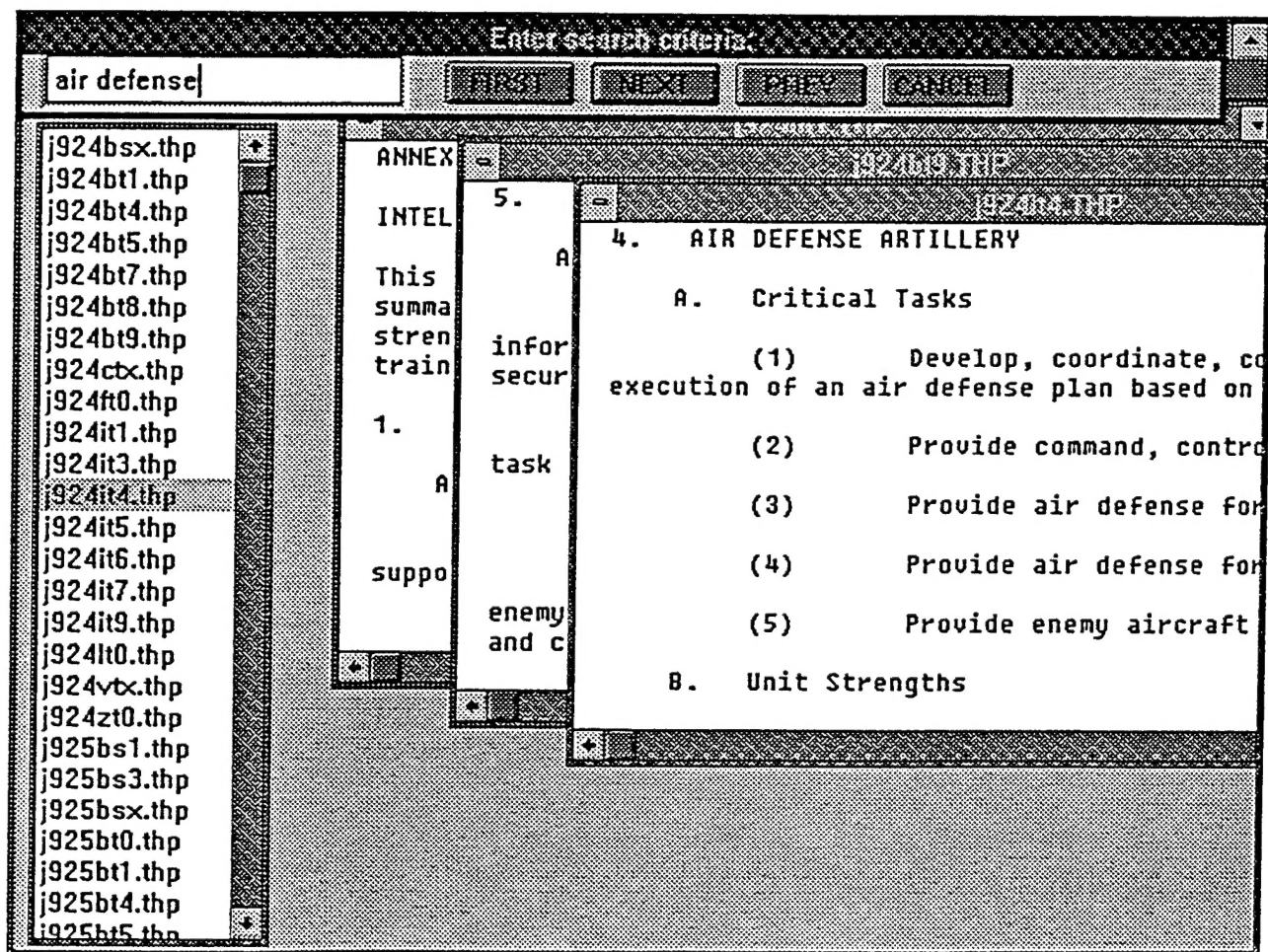


What is a mask? Do you see the question marks in the window within a window below? Where it says 'j92?????.thp'? That is a filename mask that says 'I want the JRTC files for the fiscal year 1992, for all rotations, all organizationa, all file types, and all BOSSs'. You can see the result in the vertical 'list box' on the left of the screen, behind the 'Choose' menu. In other words, the question mark in a given position means to allow all values in that position to be valid choices, when the program fills up the list box with THP filenames. If all other positions were question marks except the fifth, and that was an 'A', then ALL of the Armor-related THPs, for all CTCs, all years, all rotations, etc, etc, would be put into the list box. But beware: othen the letter/number code means something different before and after 1993-03!

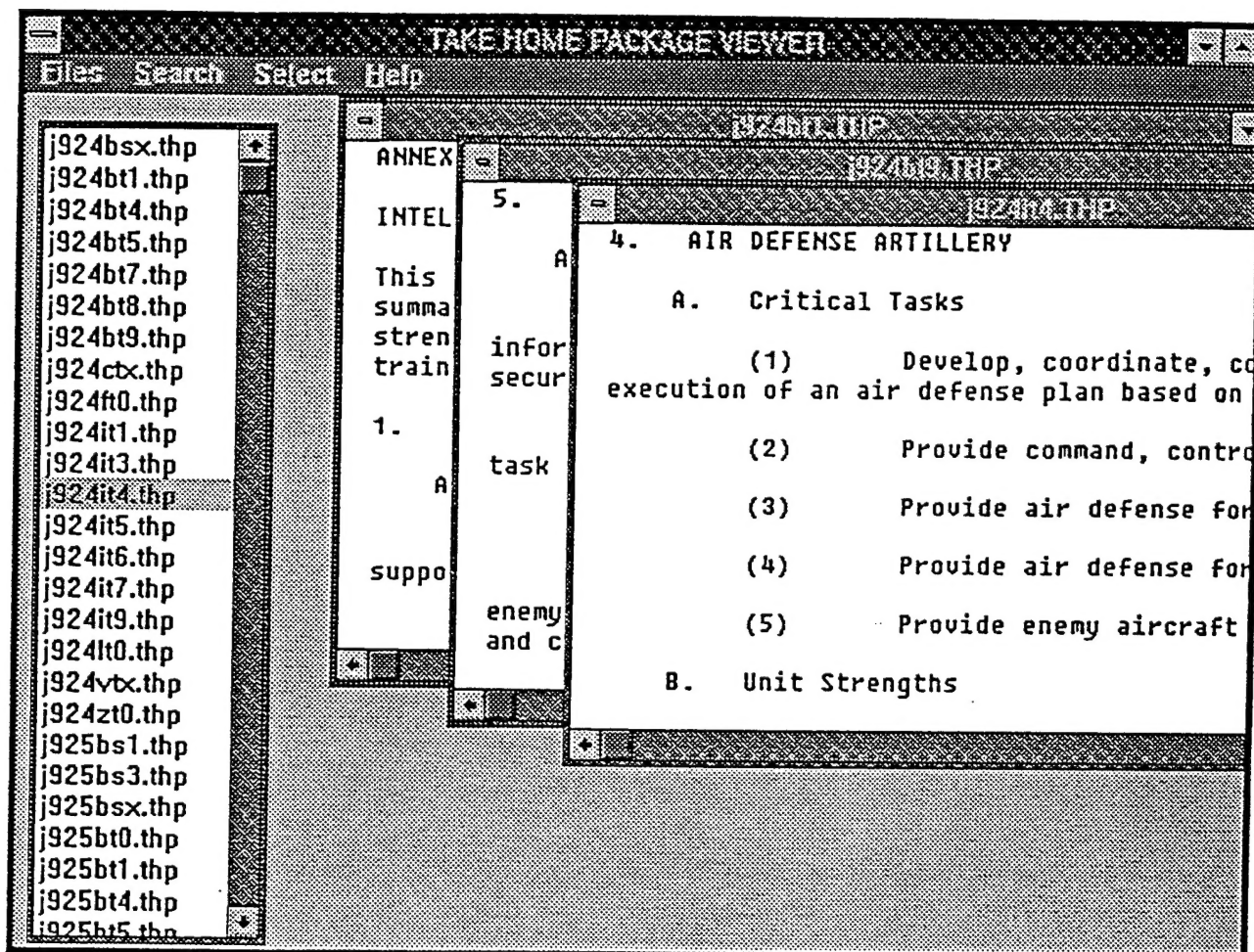
When you make a choice, the program will immediately go and fill up the list box with filenames that meet the current criteria, even if you aren't finished specifying the file mask. The fewer choices that have been made, the longer it will take for the program to finish. If no files meet your criteria, then of course nothing will appear in the list box.

The 'Choose THP Files' window is activated by clicking on 'Files' from the main window menu.

There are also two different ways to search for words or (short) phrases: One mode, available by clicking on 'Search', brings up a box that allows you to enter a word or phrase, and search from where you are in a file forwards and backwards, or from the beginning:

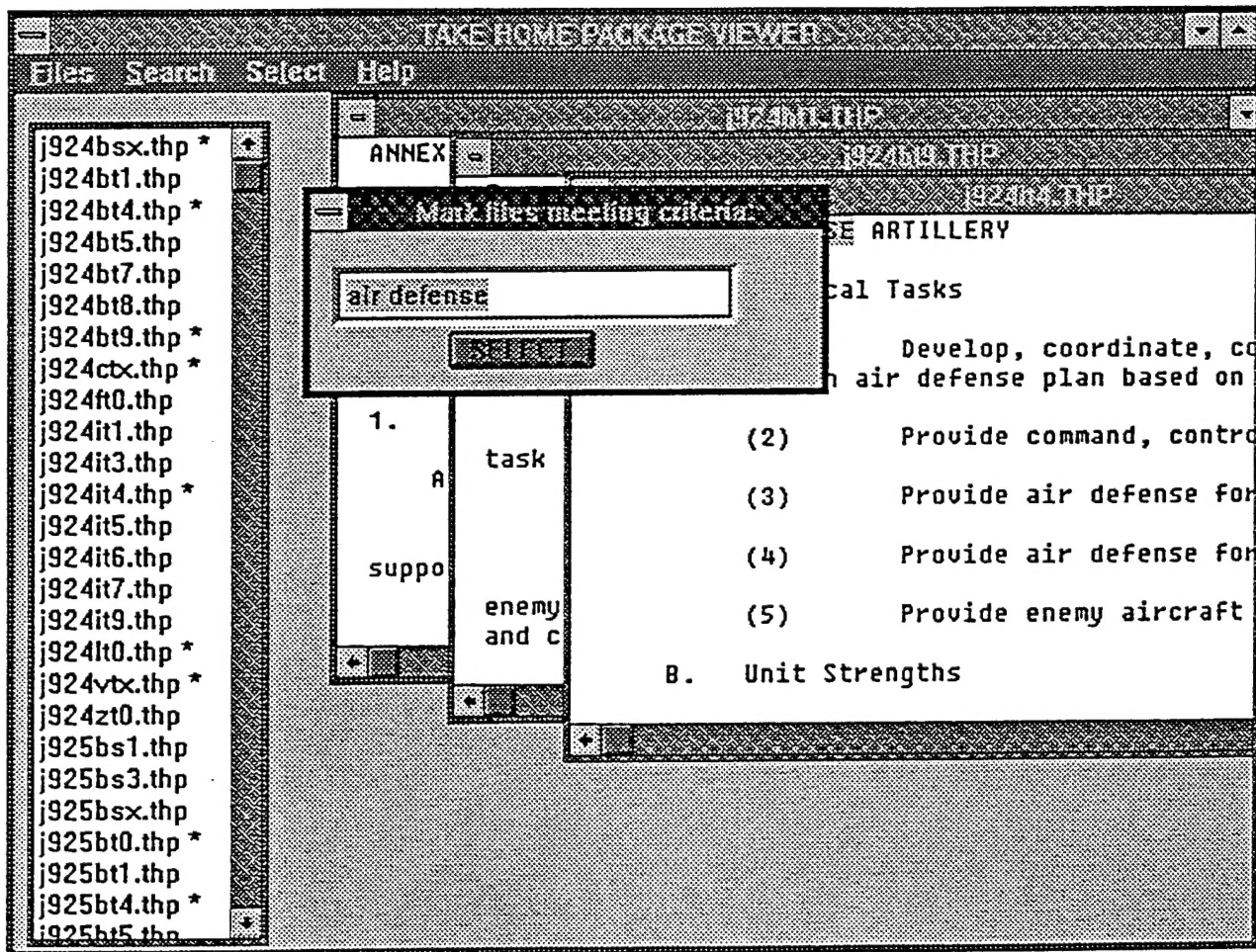


Please note: this feature ONLY works on the text window that is currently on top! To bring another text window to the top, it is necessary to click on some visible part of it. If it is completely hidden, move other windows around to uncover it.



2. The main viewing window has a couple of convenient features. For one thing, it is possible to bring up up to ten files (in separate windows) at one time. These text windows are arranged as below when brought up, but they can be moved and re-sized. (The eleventh file to be selected will show in the first window, and so on.) Bring up a file by double clicking on a filename in the list box on the left.

The 'Select' menu choice, on the other hand, will look through all the files listed in the list box, and mark the ones containing the specified word with a '*'.



Text windows can be scrolled up and down in the usual Windows manner, by clicking on the scroll arrows or dragging the scroll button, and you can also use the arrow and pageup and pagedown keys. Note, though, that the pageup/pagedown keys will advance the document by one tenth of its total length, not by an actual page.

These text windows also allow you to save parts of them to a file known in Windows as the clipboard. The Windows Program Manager has a Clipboard Viewing program that will allow you to view, save, and print whatever you have 'clipboarded'. (The clipboard itself is, in fact, a special file that Windows manages.) The THP program manages clipboarding in much the same way as most Windows text processing program available today, that is, when you click down on the left mouse button and drag the cursor down on the screen, text under the cursor will be highlighted. When you have highlighted what you want to save, let the mouse button up and you will see a box giving you a choice of NEW, ADD and CANCEL. NEW will empty out the clipboard file before putting in what you have just highlighted. ADD will just add it. CANCEL, of course, lets you forget about the whole thing. THP viewer is a little different from other programs in that 1) a whole line is highlighted at a time, no matter whether the cursor is at the beginning or middle of a line, and 2) if you go back up past where you have started from, you should hear a beep as highlighting is turned off.

